



# Science – Working Scientifically

ASPECT: Gather and record data						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Skills	With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams).	Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some accuracy.	Gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy.	Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs).	Gather and record data and results of increasing complexity, selecting from a range of methods (scientific diagrams, labels, classification keys, tables, graphs and models).	Choose an appropriate approach to recording accurate results, including scientific diagrams, labels, timelines, classification keys, tables, models and graphs (bar, line and scatter), linking to mathematical knowledge.
Knowledge	Data can be recorded and displayed in different ways, including tables, pictograms and drawings.	Data can be recorded and displayed in different ways, including tables, charts, pictograms and drawings.	Data can be recorded and displayed in different ways, including tables, charts, graphs and labelled diagrams. Data can be used to provide evidence to answer questions.	Data can be recorded and displayed in different ways, including tables, charts, graphs, keys and labelled diagrams.	Data can be recorded and displayed in different ways, including tables, bar and line charts, classification keys and labelled diagrams.	Data can be recorded and displayed in different ways, including tables, bar and line charts, scatter graphs, classification keys and labelled diagrams.
Topic			H2 Woah! Yabba Dabba Do! Scrapheap challenge I Do Like To Be Beside The Seaside	Amazing Asia When in Rome Incredible Industry	Circles of Life To Infinity and Beyond! Eureka! Dragon Dynasty	Peace in our Time Survival of the Fittest



# Science – Working Scientifically

		ASPECT: Questioning					
EYFS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National Curriculum		<p><u>Working scientifically:</u> Ask simple questions and recognising that they can be answered in different ways. Use their observations and ideas to suggest answers to questions. Gather and record data to help in answering questions.</p>		<p><u>Working scientifically:</u> Ask relevant questions and use different types of scientific enquiries to answer them. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings.</p>		<p><u>Working scientifically:</u> Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p>	
	Skills	<p>Looks closely at similarities, differences, patterns and change in nature</p> <p>Talks about the features of their own immediate environment and how environments might vary from one another</p> <p>Makes observations of animals and plants and explains why some things occur, and talks about changes</p>	Ask simple scientific questions.	Ask and answer scientific questions about the world around them.	Ask questions about the world around them and explain that they can be answered in different ways.	Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them.	Ask a wide range of relevant scientific questions that broaden their understanding of the world around them and identify how they can answer them.



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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Knowledge</p>	<p>Knows about similarities and differences in relation to places, objects, materials and living things</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>Question words include what, why, how, when, who and which.</p>	<p>Questions can help us find out about the world.</p>	<p>Questions can help us find out about the world and can be answered in different ways.</p>	<p>Questions can help us find out about the world and can be answered in different ways.</p>	<p>Questions can help us find out about the world and can be answered using a range of scientific enquiries.</p>	<p>Questions can help us find out about the world and can be answered using a range of scientific enquiries, including fair tests, research and observation.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Topic</p>				<p>H2 Woah! Yabba Dabba Do! Scrapheap challenge I Do Like To Be Beside The Seaside</p>	<p>Amazing Asia When in Rome Incredible Industry</p>	<p>Circles of Life To Infinity and Beyond! Eureka! Dragon Dynasty</p>	<p>Peace in our Time Survival of the Fittest</p>



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ASPECT: Measurement							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Skills		With support, use simple equipment to measure and make observations.	Use simple equipment to measure and make observations.	Take measurements in standard units, using a range of simple equipment.		Take increasingly accurate measurements in standard units, using a range of chosen equipment.	Take accurate, precise and repeated measurements in standard units, using a range of chosen equipment.
Knowledge		Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses.	Simple equipment is used to take measurements and observations. Examples include timers, hand lenses, metre sticks and trundle wheels.	Equipment is used to take measurements in standard units. Examples include data loggers plus sensors, timers (seconds, minutes and hours), thermometers (°C) and metre sticks. Taking repeat readings can increase the accuracy of the measurement.		Specialised equipment is used to take measurements in standard units. Examples include data loggers plus sensors, such as light (lux), sound (dB) and temperature (°C); timers thermometers (°C), and measuring tapes	Specialised equipment is used to take accurate measurements in standard units. Examples include data loggers plus sensors, such as light (lux), sound (dB) and temperature (°C); timers; thermometers (°C) and measuring tapes
Topic				H2 Woah! Yabba Dabba Do! Scrapheap challenge I Do Like To Be Beside The Seaside	Amazing Asia When in Rome Incredible Industry	Circles of Life To Infinity and Beyond! Eureka! Dragon Dynasty	Peace in our Time Survival of the Fittest
ASPECT: Investigation							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Skills		With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen.	Follow a set of instructions to perform a range of simple tests, making simple predictions for what might happen and suggesting ways to answer their questions.		Begin to independently plan, set up and carry out a range of comparative and fair tests, making predictions and following a method accurately.	Plan and carry out a range of enquiries, including writing methods, identifying variables and making predictions based on prior knowledge and understanding.	



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		Talk about what they have done and say, with help, what they think they have found out.	Begin to notice patterns and relationships in their data and explain what they have done and found out using simple scientific language.	Use suitable vocabulary to talk or write about what they have done, what the purpose was and, with help, draw a simple conclusion based on evidence collected, beginning to identify next steps or improvements.	Use scientific vocabulary to report and answer questions about their findings based on evidence collected, draw simple conclusions and identify next steps, improvements and further questions.	Use relevant scientific vocabulary to report on their findings, answer questions and justify their conclusions based on evidence collected, identify improvements, further questions and predictions.	Report on and validate their findings, answer questions and justify their methods, opinions and conclusions, and use their results to suggest improvements to their methodology, separate facts from opinions, pose further questions and make predictions for what they might observe.
Knowledge		Simple tests can be carried out by following a set of instructions.	Tests can be carried out by following a set of instructions. A prediction is a guess at what might happen in an investigation.		Scientific enquiries can be set up and carried out by following or planning a method. A prediction is a statement about what might happen in an investigation, based on some prior knowledge or understanding. A fair test is one in which only one variable is changed and all others remain constant.	A method is a set of clear instructions for how to carry out a scientific investigation. A prediction is a statement about what might happen in an investigation based on some prior knowledge or understanding.	
Skills		Observe objects, materials, living things and changes over time, sorting and grouping them based on their features.		Make increasingly careful observations, identifying similarities, differences and changes and making simple connections.	Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections.	Within a group, decide which observations to make, when and for how long, and make systematic and careful observations, using them to make comparisons, identify changes, classify and make links between cause and effect.	Independently decide which observations to make, when and for how long and make systematic and careful observations, using them to make comparisons, identify changes, classify and make links between



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							cause and effect.
Knowledge		Objects, materials and living things can be looked at and compared.		An observation involves looking closely at objects, materials and living things, which can be compared and grouped according to their features.	An observation involves looking closely at objects, materials and living things. Observations can be made regularly to identify changes over time.	An observation involves looking closely at objects, materials and living things. Accurate observations can be made repeatedly or at regular intervals to identify changes over time.	An observation involves looking closely at objects, materials and living things. Accurate observations can be made repeatedly or at regular intervals to identify changes over time, identify processes and make comparisons.
		Results are information that has been found out from an investigation.	Results are information that has been found out from an investigation and can be used to answer a question.	Results are information that has been discovered as part of an investigation. A conclusion is the answer to a question that uses the evidence collected.	Results are information, such as data or observations, that have been found out from an investigation. A conclusion is the answer to a question that uses the evidence collected.	The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered using evidence collected.	Data can be recorded and displayed in different ways, including tables, bar and line charts, scatter graphs, classification keys and labelled diagrams.
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vocabulary		question answer observe equipment identify classify sort diagram chart map data compare contrast describe biology chemistry physics group record		enquiry comparative/fair test systematic accurate measurements observation thermometer data logger gather record record classify present labelled diagram bar chart tables explanation conclusion prediction similarities changes evidence improve secondary sources keys construct interpret		variables measurements precision repeat readings classification scatter/bar/line graphs further comparative/fair test causal relationships support/refute identify/classify/describe quantitative	